**BAO Report**

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**Farm field runoff, phosphorus remain major cause**

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While some of the phosphorus blamed for harmful algal blooms comes from overloaded or inadequate sewer systems and from industry, farm field runoff remains the largest source of the problem, scientists at Stone Laboratory said Thursday.  They also said Lake Erie’s HAB problem can be solved, but said climate change could complicate the effort.  Laura Johnson, a research scientist for the National Center for Water Quality Research at Heidelberg University, said there is a great deal of data on the sources of phosphorus, comparing urban and rural areas.  Urban areas are not seeing the increase in dissolved reactive phosphorus that is being recorded in areas where the land consists largely of farm fields, she said.  Rick Stumpf, a National Oceanic and Atmospheric Administration scientist, said Detroit’s wastewater treatment plant often is cited as a major source of problems. Blooms are not seen in the Detroit River, he said.  Adam Rissien, director of agricultural and water policy for the Ohio Environmental Council, said Thursday’s forecast shows state officials need to regulate the use of farm fertilizer more closely.  “Our legislators and administrators need to level the playing field and stop giving the agriculture industry a free pass.   First they need to stop the practice of spreading manure on frozen and snow-covered ground,” Rissien said in a statement his organization issued Thursday.  “Regulators continue to allow farms to spread manure as fertilizer in late fall and winter months onto land that is frozen or snow covered. However, heavy fall and spring rains wash much of the manure off the land and into waterways before it even reaches the soil” he said.  Stumpf said in contrast to algal bloom problems that afflict other parts of the country, such as the red tide in the Gulf of Mexico, the   problem in Lake Erie’s Western Basin is solvable. Scientists know if the phosphorus load in Lake Erie is significantly reduced, the problem will go away, he said.  In contrast, many algal blooms in other parts of the U.S. have natural causes and there’s little anyone can do about them, he said.  Climate change associated with global warming could complicate efforts to deal with harmful algal blooms, the scientists said.  Climate could be causing the summer to last longer, which is a problem because HABs are more common in warm water, said Tom Bridgeman, a University of Toledo algal bloom expert.

The other problem is climate change may be causing rainstorms to be more violent and dump more rain in the area, and large water runoff events can cause large amounts of nutrients to wash into the lake and stimulate algal blooms, he said.